

CLAIMS

1, A tenderising machine applicable to the processing of pieces of boned meat, containing or not fatty materials or other loads, which consists of:

- 5           - at least two superposed tenderiser assemblies A and B, each integrating a pair of axial-developed tenderising elements (11a-12a, 11b-12b), with a number of cutting members, such as prongs or blades (13) emerging from its surface, which are rotated, with the tenderising elements (11a-12a, 11b-12b) positioned close together, defining an aperture (15) with regulable amplitude and with at least one of the said tenderiser elements (12a, 12b) from each assembly A and B supported with the possibility of moving further away with respect to the other tenderiser element (11a, 11b), acting against some antagonist means during the passage of the pieces of meat which are pulled along and pass between the two tenderiser elements by gravity.
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- 15           - some means for each of the said tenderiser assemblies A and B to regulate the distance between the cutting members (13) of each pair of rollers (11a-12a, 11b-12b) and to selectively block the movement of at least one 12a, 12b of the movable tenderiser rollers for each assembly A, B.
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2. A machine in accordance with the previous claim, characterised in that at least one of the said tenderiser elements (11a-12a, 11b-12b) of each assembly A, B is governed in rotation by some means of motorised drive.

25           3. A machine in accordance with claim 1, characterised in that the said antagonist means have an elastic nature.

            4. A machine in accordance with claim 2, characterised in that all the tenderiser elements (11a-12a, 11b-12b) are rotated, with the two elements of each assembly A and B, rotating in opposite directions and with different rotational speeds, so that they cooperate in the pull of the incoming pieces of meat and produce a stretching effect on them.

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            5. A machine in accordance with claim 2 or 3, characterised in that the said means of motorised drive consist of at least one geared motor assembly (30) and at least one flexible transmission (31).

6. A machine in accordance with claim 2 or 3, characterised in that it consists of a single geared motor assembly (30) and a single flexible transmission (31) with all tenderiser element (11a-12a, 11b-12b) for the machine (10) transversally arranged to the passage of the pieces of meat, in mutual  
5 parallelism and on different levels, and driven by a pulling element fitted to one of its ends and coupled to the said flexible transmission (31).

7. A machine in accordance with claim 1, characterised in that the said superposed tenderiser assemblies A, B are arranged with vertical alignment of the apertures (15) for passage of the pieces of meat.

10 8. A machine in accordance with claim 1, characterised in that the said superposed tenderiser assemblies A, B are arranged with out-of-phase alignment of the apertures (15) for passage of the pieces of meat.

9. A machine in accordance with any of the previous claims, characterised in that a tenderiser element (11a, 11b) of each tenderiser assembly A, B is  
15 supported in a fixed fashion on a machine bed (32).

10. A machine in accordance with claim 9, characterised in that the tenderiser elements (11a-12a, 11b-12b) of each tenderiser assembly A, B has parallel geometric axes.

11. A machine in accordance with claim 9, characterised in that the  
20 tenderiser elements (11a-12a, 11b-12b) are supported at their ends and the movable rollers tenderiser elements (12a, 12b) for each assembly A, B are coupled to a pivoting articulated lever (27) which, in its mid zone is connected to a pusher assembly (25).

12. A machine in accordance with claim 11, characterised in that each of  
25 the said tenderiser elements (11a-12a, 11b-12b) consists of an axial development body terminating in two end journals (21) that rest on some supports consisting of a seating bowl (22) and a securing bowl (23), with said securing bowl (23) that can be superposed on the seating bowl (22) by rotation and/or linear movement and which can be fixed/freed by means of a retaining  
30 mechanism (16).

13. A machine in accordance with claim 11, characterised in that the said pusher element (25) is a shaft that is connected to an elastically-loaded element and contained in a support casing (14).

14. A machine in accordance with claim 13, characterised in that the support casings (14) associated with the respective ends of each movable tenderiser element (12a, 12b) of the assemblies A and B are coupled by a transversal retaining rod (18) that is connected by both ends to some levers (36) articulating to some supports (17) coupled to a machine bed (32), with the said retaining rod (18) in turn related to a mechanism (19) that controls its relative position with respect to the bed (32) and regulable from one side of the machine (10) by means of a wheel (24) through a transmission element (20).

15. A machine in accordance with claim 11, characterised in that it incorporates some means to selectively disable the movement of each of the pusher elements (25) for the tenderiser elements (12a, 12b), which can be moved in relation to the support casings (14), consisting of a stop (26) that can be interposed in the path of the said pusher element (25) to immobilise it.

16. A machine in accordance with claim 14, characterised in that the said stops (26) are remotely operated from a wheel (33) by means of a transmission selected from a group that includes a flexible transmission by cables (34, 35).